December 1989

approach

The Naval Aviation Safety Review

**"I heard what you said,
if what I think I heard
is what you meant to say,
and
you heard what I said,
if what you think you heard
is what I meant to say."**

CREW COORDINATION

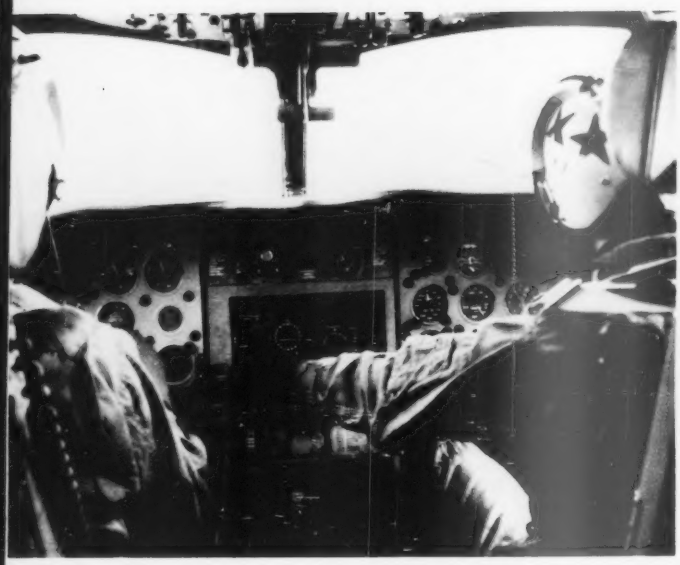
CREW COORDINATION

Editorial

At a glance, the statement on this month's cover is bizarre and confusing. It's akin to, "You thought that I thought you thought that I thought . . ." and the ECM, ECCM, ECCCM abbreviations. However, if you read it slowly enough, several times, you start to get the message.

Every time we throw a syllable toward another person, a leap of faith accompanies it. We hope the person gets the message the way we intended it to be received. We can't guarantee this, but we can swing the odds in our favor.

This issue deals with effective communication and other facets of crew coordination. Ever since Wilbur said to Orville, "You know, it would be neat if we could both go," good crew coordination has been needed in aviation. Naval Aviation has been flying multiplace helicopters and tactical jets since the '50s. In 30-odd years we've come a long way toward working as a team in the cockpit. Unfortunately, we haven't perfected the art.



In the first six months of CY 1989, 13 flight mishap reports pointed to poor crew coordination as a cause factor. The Naval Safety Center's statistics experts, in their semiannual "Devil's Advocate" series, predict that inadequate aircrew coordination will be a leading cause factor for Class A mishaps in both the TACAIR and helicopter communities for CY 1989.

The analogy used to demonstrate crew coordination usually involves sports, perhaps football. If a lineman isn't paying attention and misses a block, the quarterback might get sacked. The coach would replay the tape over and over in the following week, pounding the gaff into the lineman's head so it doesn't happen again.

In Naval Aviation, if the copilot isn't paying attention and misses the altimeter needle spinning counterclockwise, the helicopter might fly into a mountain and everyone aboard could be killed. The skipper would stand up in front of the AOM the following week and read the OPREP-3 over and over, pounding the gaff into *everyone else's* heads so it doesn't happen again.

In the first example, the lineman, a college graduate, takes the criticism on board and shows an exponential learning curve the following game. In the second example, the learning curve might be exponential, but the data points aren't around to enjoy it. The aviation game isn't as forgiving as football.

(Editor's safety tip – Don't use this argument in confined spaces when the majority of your listeners are football players without aviation backgrounds.)

Ward Carroll

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DEPARTMENTS

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POSTMASTER: Send address changes to APPROACH Magazine, Naval Safety Center, NAS Norfolk, VA 23511-5796.

Approach is a monthly publication published by the Commander, Naval Safety Center. Address comments, contributions and questions about distribution and reprints to:
Commander, Naval Safety Center
NAS Norfolk, VA 23511-5796
Attention Approach – Code 71
Telephone: Commercial 804-444-7416; Autovon 564-7416

Preventing the

unexpected

I told the student the simulated fire in the right engine of our T-44 had not gone out. He had performed all the appropriate NATOPS procedures, and, as I expected, he decided to make an emergency descent to a single-engine ditching, which was right. With his intentions clearly established, the student promptly maneuvered the aircraft into a 60-degree bank with the nose pointed 30 degrees below the horizon. I didn't expect that. I sat frozen in my seat for a couple of seconds wondering why the student was making his descent this way.

As the aircraft continued toward the simulated deck, I took control. I asked him why he had made the emergency descent with that steep an angle of bank when the deck was only 1,500 feet away.

"That's the way my last instructor told me to do it," he replied.

In another incident, the aircraft had just entered stall buffet in the power-off, dirty configuration. The student had begun the recovery when I took control of the power levers, pulled them back to flight idle, and announced a dual-engine flameout. The student immediately configured the aircraft and began relight procedures. He performed the memory items of the checklist, but on only one of the engines, instead of both.

As I explained to the student, he chose to try to relight the wrong engine and, instead of making a single-engine landing back home, we were now fish food in the Gulf of Mexico because he had screwed up the power-off ditching procedures. He explained his decision with a story from a previous instructor.

The instructor had told him that an Air Force pilot had died after a dual-engine flameout because he had tried to relight both engines at the same time. My student figured a dual-engine relight wasn't the right thing to do.

In both instances, the students worked within the bounds of established NATOPS procedures. However, neither student got satisfactory results because of differences in instructor techniques and the lack of crew coordination usually encountered in training flights.

Ideally, all maneuvers and tasks, whether in a training flight or an actual mission should be performed using NATOPS. In the fleet, I saw most of the new guys had the least amount of crew coordination and these people generally made more mistakes that could be attributed to this lack of coordination. Practice and seasoning usually made a solid unit, but unfortunately, time and practice are scarce luxuries in the training environment.

NATOPS is littered with phrases like "as required" and "should consideration be given to, unless a greater emergency exists." There's little doubt that during at least one portion of the flight, gray areas will trigger questions. These gray areas are in NATOPS where general guidelines are given instead of specific procedures to handle a situation. Should NATOPS be rewritten so that all of these less-than-specific procedures are eliminated? No. Each situation is different, and to try to write a procedure for each one would be impractical. Making NATOPS rigid, with no allowances for crew-developed techniques, may hinder performance.

Whatever your background, as a crew member, you probably realize that it takes time to perform as a coordinated unit. Whether you're a new instructor like me, or a new aircraft commander with a new crew, it's important to understand that not everyone has learned to react in exactly the way you expect.

The aircraft commander should take a few minutes before the flight to discuss the gray areas with his crew. Make sure everyone knows the techniques you expect them to know and execute should a problem arise. A few minutes spent on the deck talking things over can go a long way in eliminating problems with miscommunication and unexpected response by the crew at a time when teamwork could be critical for survival. ◄

Lt. Aiello is the ASO for VT-28. He was also the ASO for VP-1.

Aircrew Communication

By Robert A. Alkov, Ph.D.

Active listening involves hearing, interpreting, evaluating and responding . . . for the total meaning of the message.

WE spend about 80 percent of our waking moments communicating with others. We interact with aircrew members, superiors, subordinates, peers, clients, friends and family. Effective communication helps us succeed in our relationships; ineffective or inappropriate communication may strangle these relationships. Safe aircraft operations depend on productive and efficient communication.

There is a mix of communications media in aircraft and on the flight deck. We use electronic and verbal methods, along with hand signals, lights and even chalkboards. This mix can lead to confusion.

In particular, oral communication (the most used form) can produce misinformation. Lack of standardized terminology, language barriers and poor pronunciation cause enough trouble by themselves. Examples are flying in foreign areas, such as in the Mediterranean where Sigonella's Italian controllers do not always fully understand the English they speak, or in the States when foreign students are not familiar with idiomatic expressions.

Sometimes emotion interferes. As a rule, we don't hear what we don't *want* to hear, or we hear what we are conditioned to hear. Words can have different connotations for some people. In one case, when an aircraft commander ordered "Takeoff power" while trying to wave off, the flight engineer heard "Take *off* power" and promptly reduced the throttle setting. We bring a lifetime of learning, prejudice and fixed opinions into the cockpit. We judge what is being communicated based on those life experiences.

Communication involves a "sender" who transmits a message to a "receiver." To make sure the intended message is received, the receiver must give feedback to the sender. Studies conclude that this two-way communication produces a more accurate exchange of information. The sender can at least check the accuracy of his message and correct it. Feedback isn't foolproof, however – it helps produce an accurate exchange, but not necessarily an effective one.

Both sender and receiver are responsible for effective communication. Senders can do several things to make their communications more effective:

Peter Mersky

- Before you start to communicate, clarify your goals and ideas.
- Try to diminish or remove barriers such as status.
- Try to make sure that neither you nor the receiver is defensive or distrustful.
- Develop your credibility.
- Be sensitive to the receiver's needs.
- Make your actions support your words.
- Don't communicate too much or too little.
- Encourage constructive feedback.

Because effective communications is a two-way process, the receiver also has a responsibility. The skills of listening and responding are often taken for granted or even ignored. In fact, our society often considers listening a sign of weakness because we believe that only powerless people are forced to listen. Speaking forcefully and persuasively is seen as a sign of power and wrongly equated with effective communication. Consequently, many talk, but few listen properly.

The rules for active listening are:

- Stop talking.
- Put the talker at ease.
- Show the talker you want to listen.
- Remove distractions.
- Empathize with the talker.
- Be patient.
- Hold your temper.
- Avoid arguing and criticizing.
- Ask questions.

Failure to effectively listen can destroy communications. The implications are horrendous; tragic aircraft mishaps continue to occur due to a lack of communications in the cockpit.

As people grow older they develop the art of "not listening." The less interested a person is, the less he will hear. The more emotional he is, the greater the probability that he won't listen. Will a pilot understand a PCL note read to him by another crew member during an emergency situation?

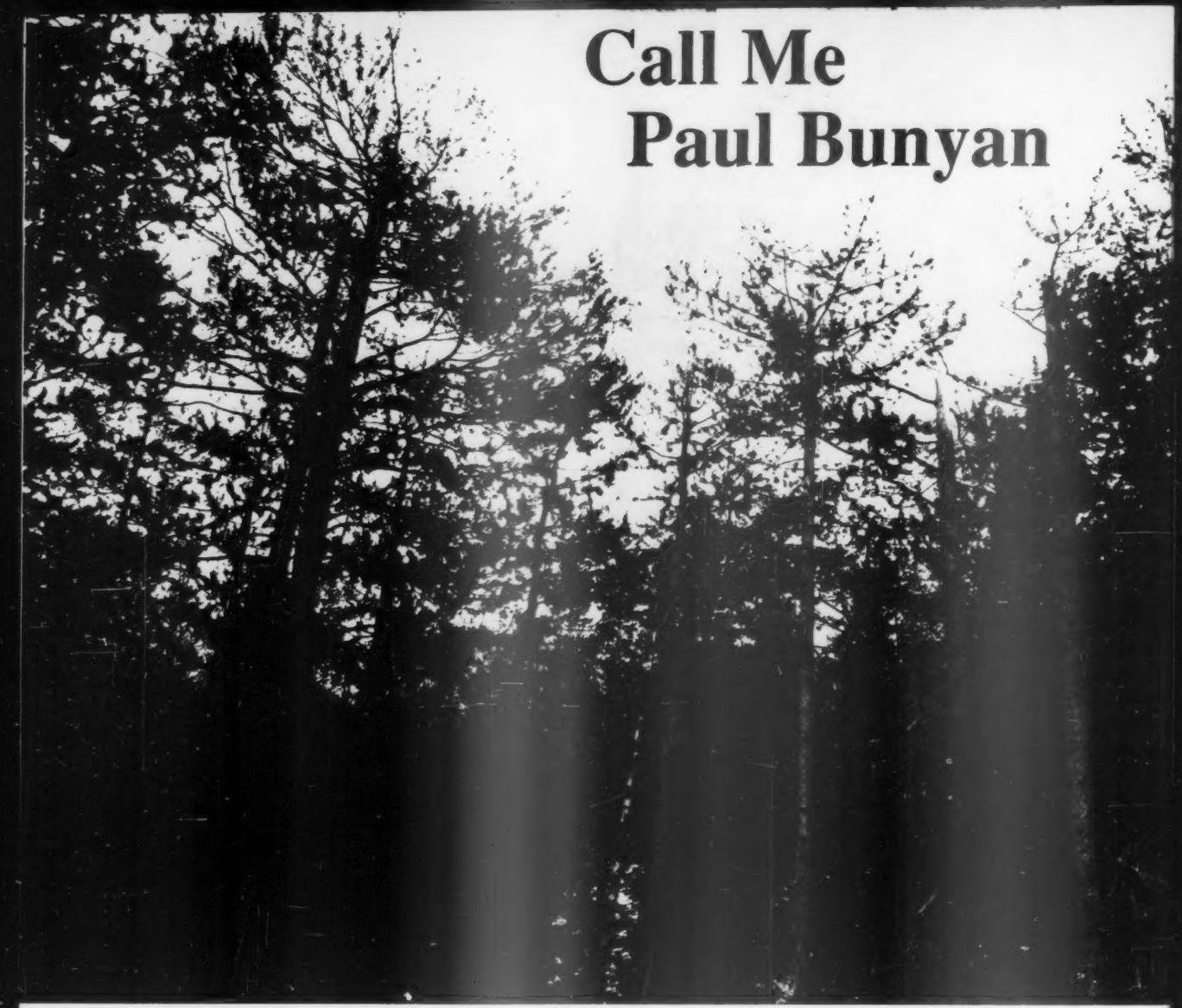
Active listening involves hearing, interpreting, evaluating and responding. Active listening implies that both the sender and receiver are using some method of listening for the *total* meaning of a message.

An update on the ACT Program

The Chief of Naval Operations (OP-59) has assumed overall sponsorship of the Naval Safety Center's Aircrew Coordination Training (ACT) program. The Naval Safety Center will continue the administration of the contractual effort with the Allen Corporation through Fiscal Year 1991. During FY91, ACT training will be installed in the six air wings of the Naval Air Training Command. CNO has tasked the Naval Air Systems Command (PMA-205) to ensure ACT training is instituted in all Naval Aviation squadrons. The Naval Training Systems Center in Orlando has been tasked to carry out the research necessary to ensure a continuing quality ACT program.

Dr. Alkov is a former Naval Aviator and head of the Naval Safety Center's Behavioral Sciences Branch and father of the Navy's ACT program.

Call Me Paul Bunyan



By Lt. Ladd Wheeler

AS we walked out to our jet, my pilot commented, "I hope we get out on this one. I've tried to get this hop done three times and haven't been able to yet." Later, while reflecting on my brush with disaster, I stuck that statement permanently in my file of "things not to say before a hop."

The hop was a standard syllabus flight evaluating the aircraft's air-to-air radar against two bogeys. I wasn't NATOPS qualified in type, so I did a quick walk-around to ensure all the big pieces were there and hopped in the back seat. Being a BN by trade, I still wasn't quite used to sitting tandem. However, I figured the bragging rights associated with breaking the sound barrier were worth the trade-off of not being able to see out the front.

My pilot finished his preflight and jumped in the front seat a few minutes after me. We taxied out of the line as Dash-3 of the three-plane flight.

En route to the duty runway, the pilot noticed the nosewheel steering was not working correctly. He tried a couple of tricks to fix it, but they didn't help. We called for some trouble-shooters to come out and take a look.

The trouble-shooters worked for about five minutes until they found a recessed pin in a nosewheel cannon plug. They reseated the pin and reconnected the cannon plug. My pilot tried the NWS a few times and decided the problem had been corrected. We continued to the hold short.

A few minutes later, tower cleared our flight to "position and hold" on the runway. The lead and Dash-2 were older model aircraft, so we gave them a few "potatoes" before we rolled. After 30 seconds, my pilot selected military power, wiped out the controls and released the brakes.

At 155 knots our jet became airborne. My pilot tried to raise the gear, but the handle wouldn't move. He tried again with the same result. Fearing we were going to exceed gear speed, he pulled the power back from military to 86 percent. My pilot figured the problem was the same faulty weight-on-wheels cannon plug that had delayed our launch. Convinced the gear were fully functional otherwise, he depressed the down lock override (which releases the mechanical stops) and raised the handle.

By this time, I felt it was taking too long to clean up. Just as I said, "Is the gear stuck?" on the ICS, I saw the handle move up. The pilot advanced the throttles back to military power and said, "Flaps are coming." That really wasn't an answer to my question, I thought to myself, but figured everything was OK. Just in case, I hawked the gear indicator to make sure we got three up-and-locked.

A few seconds later, we both noticed the main gear and flaps had retracted normally, but the nose gear remained extended. I felt the jet vibrate and said, "It sounds like it's hung up."

"Yeah, gear's coming down," he responded. At the same time, he pulled the throttles to idle to prevent any further acceleration. We both watched to see if we were going to get three down-and-locked.

For some reason, I sensed we were getting kind of low. I glanced at the VSI. We were going downhill! "Watch your rate of descent," I prompted over the ICS.

"Thanks. Good call," the pilot responded matter-of-factly. He selected full blower and programmed the stick aft. I looked forward and saw that we were below a tree line ahead of us. I grabbed the ejection handle and waited to see if we'd caught our oversight in time. As the VSI reached zero, the pilot said, "Prepare to eject."

Our altitude was just under 100 feet. Unfortunately, the trees were just over 100 feet tall. We hit them in a 25-degree nose-high attitude, in a very slight climb. The ride felt about as rough as a car going over railroad tracks. The impact ripped off most of the left stabilator, severely foded the left motor, damaged the left wing and slightly damaged the right engine.

"Hang on. We're still flying," my pilot said. Had he waited another second to tell me he still had control, I would have already pulled the ejection handle. We climbed straight ahead to 900 feet.

As I was just about to key the mike to let tower in on our problem, they came up and asked us if we were all right. We declared an emergency and informed them we were going to extend briefly to get over the water and jettison our tanks.

I visually cleared the area and told my pilot to go ahead and punch the tanks off. He depressed the emergency jettison button. The left tank came off fine but the right one didn't budge.

We completed our landing checks, confirmed three green and set up to put our crippled bird down. My pilot noticed a slight wing-rock tendency during final approach at 175 knots, but he had control of the airplane. We chose not to try an arrested landing because of our high gross weight and high approach speed.

The landing was uneventful. We turned off the duty, shut down and egressed without incident. The crash crew and base operations personnel wanted us to point out the area of trees we had hit, and we complied as best we could. We were taken to the operations office where we each wrote out a statement describing what had happened.

What had happened? I flipped through the PCL in the ops office until I came to "IF LANDING GEAR FAILS TO RETRACT." The steps were straightforward. "If gear handle will not move up: 1. Do not use override . . ." We had violated NATOPS. I wasn't able to help with the PCL while we were airborne because I had no idea there was any problem until I sensed the gear had been down too long after takeoff. By that time, the pilot was already well into his decision to select override to get the gear up.

Once I knew there was a problem, I didn't help any by staring at the same indicator the pilot was focusing on. OPNAV 3710.7M, Section 390 says, "Breakdown in crew coordination often leads to a fixation on one task to the detriment of others. . ." In our case, the "others" were making sure the airplane didn't settle back onto terra firma. I almost redundantly trouble-shot the gear to an early grave.

Once the impact with the trees jarred us into working as a crew, we were able to save the jet. That's probably the one item that can be put in the "goods" column out of this mishap. Roughly $400,000 later, I'm convinced that better crew coordination would have prevented this mishap. The AMB felt the same way.

Lt. Wheeler is currently the Flight Test Ordnance Officer at the Naval Air Test Center in Patuxent River, Maryland. He was previously a BN flying the A-6E with VA-165.

Who's Minding the Store?

By Lt. Greg Osborne

THE P-3 Orion had been cleared to position and hold for takeoff. It was at maximum takeoff gross weight of 135,000 pounds, including 4,000 pounds of inert, wing-mounted mines the aircrew would soon be dropping in a NATO exercise. The weather was overcast, and the runway was wet from rain in the area. The winds were right down the runway at 15 knots.

The crew, after completing the takeoff checklist and briefs, took the runway. Cleared for takeoff, the PPC (patrol plane commander) called for maximum power and the P-3 started its roll.

Passing through 95 knots, the aircraft suddenly veered left of centerline. The PPC responded with right aileron and right rudder and announced his intention to abort. The copilot notified the tower.

The PPC retarded all four power levers to flight idle, but the P-3 continued to drift further left of centerline. He then tried to correct asymmetrical power by advancing No. 1 power lever. He requested any secondary indications of prop-related malfunctions. The second flight engineer did not respond to the PPC's request, and the aircraft continued to drift left.

The senior flight engineer, sitting on the radar console behind the pilot,

. . . Passing through 95 knots, the aircraft suddenly veered left of centerline. The PPC responded with right aileron and right rudder and announced his intention to abort . . .

said that the No. 1 engine had autofeathered.

The PPC quickly acknowledged the call and advanced the No. 2 power lever toward max power while reversing the No. 3 and No. 4 power levers.

The left drift was immediately halted and the aircraft gradually returned back toward the centerline, at which time asymmetrical reverse was applied on all three operating engines. With clearance from the tower, they taxied off the active runway and back to the line area to trouble-shoot the malfunction.

It took just 10 seconds for the aircraft to drift from the centerline to a scant 10 feet from the left runway edge, a total of 65 feet. A scan breakdown by the junior flight engineer prevented him from noticing the illumination of the autofeather light and subsequent fuel chop of the No. 1 engine. The copilot, a nugget 3P, also failed to pick up the instrument indications. He said he was looking outside during the left drift.

During the debrief the junior flight engineer said he couldn't remember hearing the PPC's request for secondary instrument indications during the abort. The total breakdown in crew coordination and failure of the cockpit crew to carry out their duties almost caused an aircraft mishap. The alert call by the senior flight engineer saved us.

Of course, the PPC took responsibility for this hazardous situation. A maximum gross weight takeoff on a wet runway requires the most experienced cockpit crew; i.e., PPC, NATOPS-qualified 2P and first mech. The PPC had been so busy trying to keep the P-3 on the runway that he failed to notice the No. 1 engine autofeather, while the young inexperienced copilot was basically along for the ride. When the junior flight engineer failed to evaluate the takeoff malfunction, nobody was minding the store. From this experience we learned the importance of cockpit coordination and proper instrument scan procedures. ◄

Lt. Osborne is ASO at VX-1, NAS Patuxent River, Md. A P-3C pilot, he previously was with VP-23, NAS Brunswick, Maine.

Don't Depend On Someone Else

By Ltjg. S.P. Kelley

ON the first day of the CQ, the Gulf of Mexico and the Florida panhandle were pelted by severe thunderstorms. Our launch times slid due to heavy rain and lightning. When a hole appeared, we rushed to get airborne. My instructor BN and I led another A-6 with two nuggets to our first A-6 traps aboard USS *Lexington*. We were thoroughly rested, mentally pumped and well-briefed. During our preflight, we found 2,000 pounds of fuel in the right drop-tank; the left tank was empty. But, since the aircraft had no history of transfer problems, we accepted it.

Our section was at high power on a wet runway that had areas of standing water. We checked our wingman and began our takeoff roll. After going 1,500 feet, we still had no airspeed indication. At 2,000 feet, still nothing. With all the other instruments reading normal, I decided against aborting. I waited until we were well past the computed takeoff point and rotated the aircraft.

I had plenty of flying speed, but I was amazed at how much stick deflection I needed to counter the asymmetric load in the fuel tanks. Accelerating through 12 units AOA, I called for flap and slat retraction. My BN was not comfortable with this AOA and insisted we keep the flaps and slats down until he found the number in his PCL. While I struggled to stay VFR, my BN instructor flipped through his book. We neglected to tell our wingman about our problem.

Shortly after takeoff, my wingman had an aft bleed light illuminate; this emergency required him to get back on deck ASAP. After an incredible overrun caused by our lack of communication, he dropped his flaps and slats, and joined up. We gave him the lead and explained our situation.

We accelerated, cleaned up and began climbing to 6,000 feet to dump fuel. Clear areas quickly vanished, and while we hung on through rain and turbulence, I realized that the 2,000 pounds of fuel wasn't trimmed out. I struggled to keep my position, and I listened to the confusion.

My BN was obviously uneasy. Surrounded by rain clouds and nuggets, he did not leave the communications to the lead crew. This confusion led to approach delays. Fouling both runways while other aircraft were inbound seemed foolish, if it wasn't absolutely necessary.

We decided to make a section GCA to one mile, then split the dual runways. As we descended to 2,000 feet, the weather improved, but we still remained in and out of clouds. I dropped the gear. I was working much too hard trying to stay in position while changing my plane's configuration.

I felt uneasy about the effectiveness of my controls; I thought I was going to stall.

"Give me a few percent," I called. Suddenly the right wing dropped. Adding military power and lowering the nose was the only thing that kept us in the air.

"Check your flaps and slats!" the lead called. Sure enough, those surfaces were up and up. Landing checklist complete? What checklist? I had remained padlocked on the lead and relied completely on my BN to monitor the checks.

I was now acute and below the lead, and I was lucky to keep him in sight. After I properly configured my aircraft and worked back into position, we completed the GCA and separated at one mile. After checking the last reported braking action, we made an uneventful landing.

That close brush made me realize that counting on someone's experience can carry heavy consequences. Each person is ultimately responsible for his own survival. Once he knows his aircraft thoroughly, he can turn his attention to perfecting his crew coordination. ◄

Ltjg. Kelley flies with VA-95.

Your Head – Use It, Don't Lose It

By Lt. Jim Nock

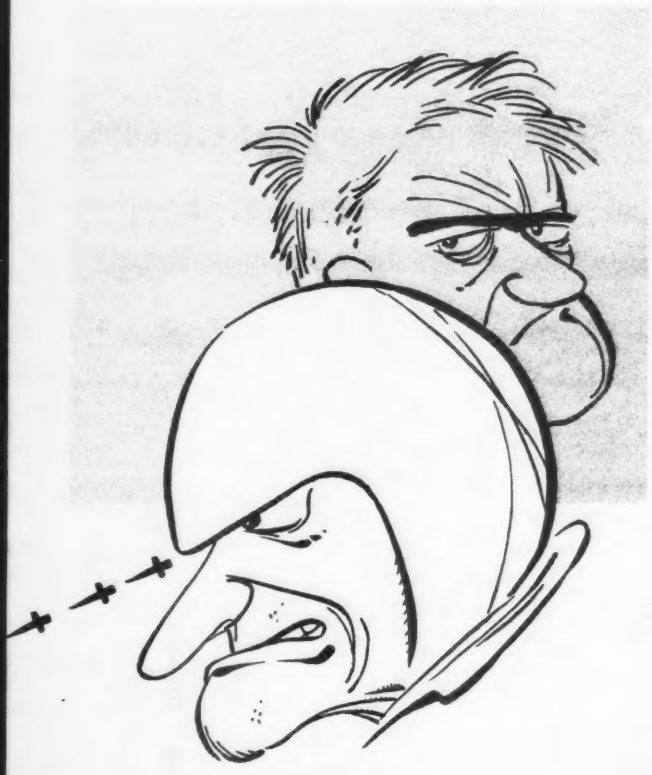
WE launched in our UH-1N on a 25-minute hop to another NAS for a static display and launch. As the primary SAR aircraft for the area, we had a crew of five, including two crewmen and a corpsman. When we arrived, we were cleared for runway 23 and told to land at "Zulu." Neither my copilot nor I knew where that was, so we asked the tower for instructions. We still couldn't understand them because their radios were scratchy with a loud squeal. I thought the tower said, "Land at the intersection of runway 05 and 23."

I pulled out my airport diagram and realized that 05 and 23 were the same runway. With the bad communications, we just decided to land near a taxiway and ask for a progressive taxi. We had been told they were expecting us, and because we were primary SAR, they knew we would have to refuel. We expected tower to taxi us to their refueling line.

Unfortunately, they taxied us to the end of runway 23 and directed us to taxi next to a CH-46. We couldn't see any CH-46, and we again asked for clarification. After a brief pause,

the tower told us to taxi and park behind the O-Club. I told them we needed to refuel first. Tower said, "Stand by." After we had hovered for five minutes, tower said to "Back taxi to runway 23 via the right side due to traffic on the left."

After we taxied to the center of the next runway intersection, they told us to "taxi onto the grass parallel to taxiway Delta." With their garbled transmission, and having no idea where taxiway Delta was, we could not understand where they wanted us.



"Taxi on the grass next to the crash truck," the tower said.

After we got to the spot, another long wait followed and I felt my blood beginning to boil. Tower tried to give us more taxi instructions, which we didn't understand, and I finally had had enough.

"Just tell us where you want us to go, and we will get there!" I shouted.

Finally, someone said, "Taxi straight ahead. Your lineman is on the other side of the CH-46 off your nose." I was upset and I took the controls from my copilot and swung the aircraft into motion.

I didn't feel I did anything excessive, but my crew members told me they felt that I taxied a little faster than I needed to. My only thought was to get this torture over with quickly.

To add a final insult, our plane captain landed us with a 15-knot tailwind, which I knew about but chose to accept because I was in such a hurry. While we were gassing up, my corpsman tried to calm me down while the rest of the crew gave me nasty looks.

After refueling, we started up once more and taxied back to the O-Club, which was much easier to find this time because we knew where we were going. I was still upset. The whole thing had taken too long, and I felt we had not maintained an adequate SAR posture, especially while we were refueling. Then another situation arose – something we had not briefed.

The area behind the club was a slope, about seven degrees, and at the bottom of the slope was a small hill that stuck up just high enough to interfere with our tail rotor. The area was also full of helos, which made it hard for us to maneuver. We were to land up slope, between an H-2 and H-60, again with a 12-knot tailwind.

I thought about having to launch on a SAR within 15 minutes, so I backed up and swung my nose into the wind, a little faster than necessary. My crewmen tried to keep up with me, but at this point, I had completely forgotten about crew coordination and was trying to do everything myself.

Once we were facing into the wind, I prepared to land. I heard my crew chief yell that this would be a slope landing, which I knew already. In my haste, I never thought that we trained for slope landings all the time and that crew coordination is important. Instead of waiting for a zone description, I descended and heard "one foot on the left," then in rapid succession, "six inches," "touching left," and then, "touching on the right."

After I put the collective down, I heard my corpsman mutter, "So much for all that practice." Her words didn't register because I was too busy congratulating myself on my smooth landing.

After we shut down, we all got out to greet our hosts, and my crew chief asked if he could talk to me in private. At first, I rejected his complaint about how I handled myself, except for agreeing that perhaps I should have set up the slope landing a little better. Of course, after I reviewed the flight and had a chance to cool down, I realized that everything he said was true.

I remembered reading about mishaps caused by poor crew coordination and I realized how lucky I had been to get away with only an upset crew. ◄

Lt. Nock is the Schedules Officer for HC-16.

Now That We're Aboard, What's For Lunch?

By Lt. Terry Rucker

..The caution light was now steady and pressure on the gauge was indicating zero. My XO had already made two unscheduled water landings because of mechanical failure. He didn't want to make a third . . .

MY XO and I manned our SH-3H to participate in a large fleet exercise. As soon as we arrived at DATUM, we dipped our active sonar. The first of several dips came up with no contact. We were searching a line of bearing and were ready for a sonar contact. After establishing a new dip position, the dome was lowered to a depth of 325 feet.

Just when the Sea King stabilized, I saw a light flicker for a split second on the master caution panel. As the XO and I looked at the panel, the light illuminated once again. It was the caution light indicating low transmission oil pressure. The pressure gauge needle was falling to zero. The transmission could seize at any moment. Up dome!

We knew we were in trouble. In seconds we had gone from searching for submarines to possibly losing a helo and a crew. We declared an emergency and departed the hover. The carrier was 22 nm downwind when we transmitted the MAYDAY call. We started inbound low and slow, 25 knots IAS and 30 to 40 feet altitude.

The caution light was now steady, and pressure on the gauge indicated zero. My XO had already made two unscheduled water landings because of mechanical failures, and he didn't want to make a third. We completed the controlled ditching checks. Meanwhile, the carrier turned toward us at flank speed. Two other helicopters were enroute for SAR help, if needed.

We agreed if there were any more signs of transmission failure, we would put the helo in the water. At 16 nm from the carrier, aircrewmen reported a loud howling coming from the transmission area. The XO turned into the wind, and we prepared to ditch. In a stable 15-foot hover above 7-foot seas, the aircrewmen told us the noise had stopped. We

gave each other an inquisitive glance and once again turned the helo inbound to homeplate. Within minutes the howling returned with fluctuations on both torque needles. "Nightdipper 613, ditching now," I transmitted.

Once in the water, I inflated the flotation bags on the sponsons and activated the jettison control button. Our helo rocked perilously in the 7-to-9-foot seas.

Two rescue helicopters circled above. Knowing we might have to abandon our Sea King gave me a sickening feeling. With each swell that crested, the rotor blade tip path came dangerously close to the water as our helo dipped downward. Conversely, as the approaching wave pitched the aircraft nose high, the tail rotor came close to the water. As we pitched downward, we could see the top of the next swell through the greenhouse above us.

Rotor shutdown would be disastrous, so we decided to keep the rotor system spinning as long as possible.

The SH-3H has an emergency lubrication system (ELS) designed to supply 30 minutes of lubrication to critical parts of the main gear box if pressure is lost. After 10 minutes on the water, all of our instruments showed the ELS was working as advertised.

The rescue helicopter crew watched us take a big wave as water crashed on the windshield and around engine intakes. They advised us to check our engines. The ice shields in front of the engines had deflected most of the saltwater, preventing dual engine flameout, but the engine temps were slowly rising. "How many more waves like that one could we take?" I wondered as we were pitching and bobbing. I also thought about my water egress training in the helo dunker. I hated the dunker. Even so, I knew what to do if we rolled over. At least I wouldn't be blindfolded this time. Maybe FASO would count this one as my requal.

"Terry, what does the torque look like?" the HAC asked. He has his own gauges, but I looked at mine and told him the reading.

I saw that all of his attention was needed to keep us afloat. His eyes were focused outside. I reached over and hit him halfheartedly on his shoulder and said, "XO, you're doing great. What's for lunch?"

Soon we were shouting at each other when the ICS became intermittent because of the water. Another wave hit the windshield like a couple of 55-gallon drums of water thrown on us. Water was splashing through the jettisoned window holes, and all of us were soaked.

"XO, that last wave came within a foot of our tip path," I said. The ship had now closed to five miles. The howling and torque fluctuations suddenly subsided.

"Terry, let's get out of here," the XO said.

I applied full power. At the crest of the next wave, the XO popped the helicopter off the water vertically. We were airborne! All instruments showed normal, except for engine temperatures that had increased slightly.

We dumped more fuel and were prepared to go back in the water immediately, if necessary. Four miles to go to the carrier. The Air Boss informed us that we had a green deck, much better than the blue one we just left.

It was now 25 minutes into the emergency. Would our ELS last another five minutes and get us safely back on the deck? The carrier wasn't wasting any time. We saw white water being split by its bow and splashing over the flight deck. At three miles from mother, we got a number-two engine firelight.

That was all we needed at this point. I stuck my head outside but saw no fire. Our wingman said he didn't either. We retarded the speed selector on No. 2 engine, and the fire light went out.

Two miles to go. I went through the landing checks. Now we had an unsafe gear indication. They looked down and locked on both sides. I checked the circuit breaker, and it was out. We were approaching the ship abeam. We turned slowly 180 degrees and the XO said, "Terry, you've got it. Get us aboard."

I applied steady power, and soon we were at flight deck level. My throat was dry, and I could feel hair falling off my head. I slid over the deck and slowly lowered the collective to a run-on, no-hover landing. I did an Air Force shutdown, and the rotor blades came to an abrupt stop. We made it! The XO and I gave each other a high five.

"Terry, let's go to lunch." he said. I was ready!

Lt. Rucker is a helicopter aircraft commander with the HS-5 Nightdippers.

As I shut down, I was mobbed by trouble-shooters . . .

Experience Isn't Always the Answer

By Lt. Anson Johnson

OUR mission was a JAMEX against another ship in our battle group. I was a nugget on my first cruise with an unimpressive 300 hours in type and 70 traps. As our Prowler reached cruising altitude, I set the throttles in the familiar, max-conserve position. A second later, I thought I heard a strange noise coming from the engines. I turned to my right-seater and told him something seemed wrong.

"What?" ECMO 1 asked.

"I'm not sure, but can't you hear it?" I replied.

"No," he said. "Sounds like a Prowler to me."

ECMO 1 was the second most experienced NFO in the squadron with more than 2,000 hours and over 600 traps. But I couldn't get rid of my uneasy feeling.

"It sounds like a vibration in the tailpipe," I told him, "like it's loose or cracked." I had heard this sound before in A-4s.

ECMO 1 replied, "If it was cracked, we would have seen a fire light by now." At this point, I was determined to convince him. In multicrew aircraft, we are trained from day one about crew concept. One of the basics is communication to ensure no hasty decisions.

I made several power adjustments. Increasing rpm on the left engine decreased the vibration but increased the noise. Reducing power reversed everything. My right-seater remained unconvinced. He checked with ECMO 2 and ECMO 3.

"No, I don't hear anything," one replied. "Sounds normal to me," the other said.

Even though I felt uncertain, we called "Kilo" and switched to mission control. The flight went as advertised. I played around with the throttles throughout the hop, and still could not get rid of my feeling that things weren't right.

We completed the mission and entered marshal. When it was time for alpha sierra codes, I told ECMO 1 to call the plane down for engine vibrations, and I'd explain on deck. We pushed out of marshal and began our approach. At 10 miles, dirtied up, the intensity of the vibration became more obvious – to me, of course. The pass was fine: rails 4.0 to the target wire.

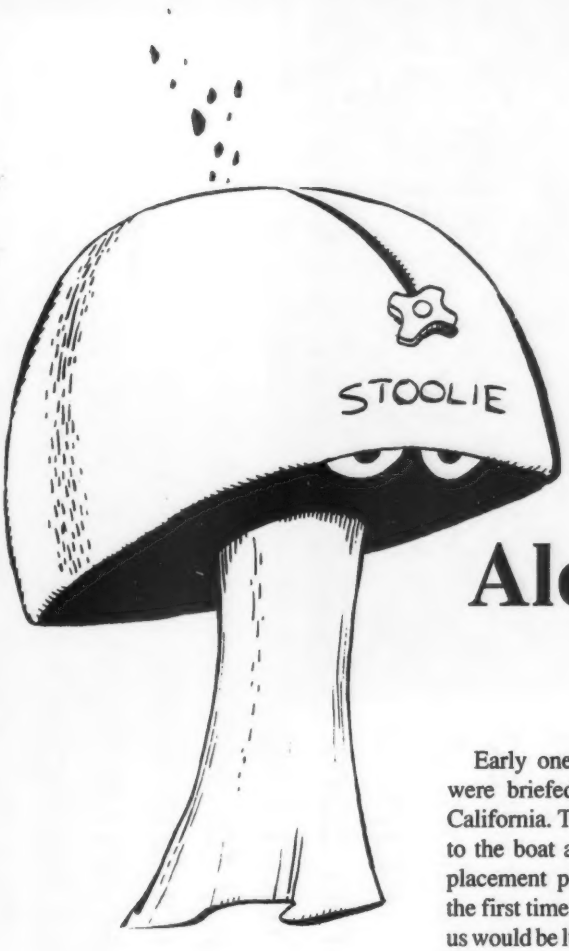
As I shut down, I was mobbed by trouble-shooters. I explained what I felt in the cockpit and told them to check the left tailpipe.

As I entered the ready room, I was also mobbed by people wearing oak leaves. Since my plane was supposed to be the "go" plane for the last launch of the night, they were concerned. There were no spares and the sortie would be lost.

The pilot for the last launch asked me what the problem was as a few maintenance people came in. In astonishment, they said they had found seven gaping cracks in the exhaust section of the tailpipe. The pilot, along with half the squadron, congratulated me and expressed his relief that we hadn't launched the plane after all.

Experience isn't always the answer. Although the entire crew is reponsible for coordination and a successful flight, I had the ultimate responsibility of controlling the aircraft. If I had trusted my instincts, I would have recovered right after launch. ◄

Lt. Johnson is an EA-6B pilot with VAQ-134, embarked in USS *Carl Vinson* (CVN-70).



. . . Who's watching the lead? I glanced out the aft canopy and saw the lead aircraft passing down the left side . . .

Along for the Ride

By Lt. Stephen J. Varani

I HAD first heard the term "mushroom" in the EA-6B FRS at NAS Northwest. Until then, I had always used it in a different context. In the Prowler FRS, they called the guy in the back a mushroom. Since several critical circuit breakers are in the aft cockpit, it had to be manned for most flights.

An FRS student would fly a graded event in the front seat while students for newer classes would ride alone in the back to acquire experience and flight time. There seemed to be little to do but enjoy the ride.

Early one morning, several crews were briefed for a hop to Southern California. The next day we would fly to the boat as mushrooms for the replacement pilots who would CQ for the first time in the Prowler. Not all of us would be lucky enough to fly aboard. Most of the class would fly down on an airlift and walk aboard.

I happened to be one of the lucky ones. After a quick flight to NAS Southwest, we would spend the first night on the beach. Six of us briefed a two-plane flight. A routine hop, just kick back and enjoy the ride.

We manned up and launched. The sky was clear and visibility great with the lead 500 feet ahead and slightly stepped up. The pilot, a Marine first lieutenant, announced over the ICS, "The pilot is unstrapping." The pilot began a search for the relief tube. The copilot (the instructor) acknowledged. Thirty seconds passed when the pilot said he was having trouble locating the tube. Through a small space in the instrument panel, I could see that both the pilot and the copilot had their heads down looking for the tube.

I found this amusing until I thought, "Who's watching the lead?" I glanced out the aft canopy and saw the lead aircraft passing down our left side.

"You're overtaking the lead!" I shouted on the ICS. The pilot quickly responded, and we resumed our position as wing.

What had been a routine flight almost turned into a disaster. Both the pilot and the copilot had taken their eyes off the lead. None of our three-man crew knew the lead's position. Aircraft separation is the responsibility of all crew members. All eyes should be scanning outside, especially during critical phases of flight, such as takeoff, approaches, formation flight and rendezvous. There's no such thing as a mushroom in Naval Aviation. No one is along just for the ride! ◄

Lt. Varani is an ECMO in VAQ-131 flying the EA-6B with CVW-2 in USS *Ranger* (CV-61). The squadron is based at NAS Whidbey Island, Wash.

Don't Keep It a Secret

By Capt. Billy P. Webb, USMC

NUMEROUS mishaps have happened because crew members have ignored, not heard or failed to pass on vital information. A copilot, for example, relays a traffic call to the pilot in command, who responds, "Yeah, I've been watching that guy for som pilot's failure to relay a routine traf If I was a crew member on his flig he may have seen that he hasn pressure fluctuated? Did he sm

PH1 John R. Sheppard

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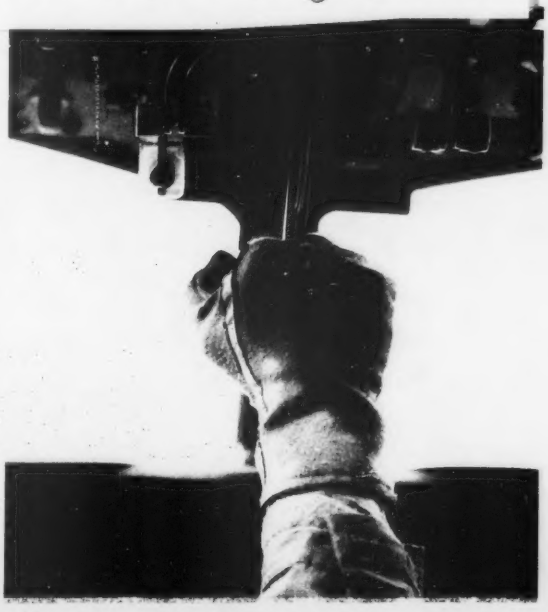


Twenty Seconds of Bomb-Bay Terror

By Lt. Raymond Waurio

MY crew had completed several preflights in the total darkness of an Icelandic winter. A ready alert preflight involves a check of the jettison system, conducted by an ordnanceman. He ensures the bomb-bay doors are clear and listens for the bomb racks to release.

I arrived at the flight station just as the ordnanceman finished briefing the flight engineer (FE) on the switches and hand signals he would use.

In accordance with his brief, the ordnanceman left the flight station and positioned himself outside to view the bomb-bay doors. Pointing both arms at the bomb bay, he signaled the FE to actuate the red-guarded jettison switch. Carefully lifting the red guard and pressing the switch, the FE actuated the jettison system.

Something wasn't right because the doors opened only a quarter of their full extension, then closed. Thinking the FE had pulled the wrong switch, the ordnanceman returned to the flight station to see what had happened. During their conversation, I noticed only one of the three hydraulic pumps had been turned on. We turned on another, and tried the test again. (It turned out the jettison checklist calls for two hydraulic pumps to be working during the test; obviously, the checklist was not being followed.)

I decided that I would become an active participant in this event. I recycled the jettison switch, and the system leaped to life. The doors popped open and the sound of hydraulic fluid could be heard throughout the cockpit. Our test stopped as the doors returned to their original closed position.

My ordnanceman was not happy with the system's initial delay and decided to rerun the test. When he returned to the cockpit, I heard him say that he wanted to recheck the switch. To me, this meant actuating the jettison switch. To the ordnanceman, it meant opening the bomb-bay doors, recocking the bomb racks, closing the bomb-bay doors and then activating the jettison switch.

Upon positioning himself near the bomb bay again, the ordnanceman gave me the door-open signal. The door-open signal was a different hand signal than the one he

used with the FE.

Yet, I heard him say, "Redo the jettison system." With those words ringing in my ear, I activated the jettison switch.

A quick tap of the switch brought the bomb-bay system to life. When the doors were fully open, I glanced outside at my ordnanceman. To my disbelief, he was giving me the signal that he was going to install the door safety pin, and he was walking toward the bomb bay.

Horror gripped me since I knew the doors would be closing in a matter of seconds. Desperately, I waved both hands in the side window, trying to stop him. He must have thought I was putting my hands in the window as a signal that all was clear to proceed. He vanished from my sight. I froze, not knowing what to do. Suddenly, I heard the sound that I feared most: the doors closing. He was about to be crushed by those hydraulic jaws of death!

"Oh, my God! I've just crushed my ordnanceman in the bomb-day doors," I said to myself in disbelief. Those 20 seconds from the start of the jettison system check to the closing of the doors seemed like an eternity. I was convinced I had either dismembered or killed him.

"Thud." The doors cycled fully closed. Now came the moment of truth. Would my ordnanceman reappear without a scratch or would his absence mean the beginning of the real nightmare?

Someone was watching over me that day, for out of the darkness sprang my ordnanceman, upset by the incident. I saw two arms, two legs and a head. Yes, he was all in one piece. Fortunately, he had been fumbling with the door safety pin when the doors closed. This slight delay saved his life.

I was lucky that my 20 seconds of terror had a happy ending.

I walked away with respect for those hydraulic, man-eating pieces of steel and the following safety tips to my fellow fliers:

- During jettison-system checks, the ordnanceman should wear a headset to provide continuous two-way communication between the flight station and the outside observer.
- The ordnanceman must conduct a thorough brief of the checks. He must discuss switches, voice commands and hand signals if no headset is available.
- Allow only the person who was briefed to conduct the jettison test with the ordnanceman.
- Make sure the ordnanceman follows the jettison-system checklist in the loading manual. This will ensure all switches are in the correct position. There is no excuse for not following published procedures.

Lt. Waurio is an instructor pilot with VP-30, NAS Jacksonville, Fla. Previously, he was Quality Assurance Officer of VP-26, a P-3 squadron based at NAS Brunswick, Maine.

The aircraft responded well until 400 feet AGL when the controls again began to bind, and the nose started to pitch up . . .

"Take the Controls, I'm Exhausted!"

By Ltjg. John L. Briggs

DURING my third mission as aircraft commander, my copilot noticed the elevator control on our EP-3E felt stiff and was not responding. I took the yoke and leveled off at 26,000 feet. The elevator control did feel stiff; I couldn't move it. Following NATOPS, I had the flight engineer (FE) pull the elevator-boost-shutoff handle. That restored elevator control.

I aborted the mission and headed over the Eastern Mediterranean toward our home base, 2.5 hours away, with the idea of making a boost-out landing. Two minutes later, the elevator began to bind again in the boost-out condition. With trim not being moved and no force applied to the elevator, we decided to go boost-in. The P-3 responded well for four minutes before the controls stiffened again.

With the boost handles in, the FE turned each hydraulic pump off, one at a time, to check the hydraulic system, but there was no difference in how the controls felt. The FE then checked the integrity of the elevator control cable from the yoke back to the aft pressure bulkhead; he was looking for FOD or defective cable rollers, but found no malfunctions.

A few minutes later, the elevator bound completely. We went boost-out again. I pulled out the handle, and the Orion's nose abruptly pitched up 15-to-20 degrees and wouldn't respond. It took two of us on the yoke to force the nose back to level flight.

We also encountered a mild stall buffet since the airspeed had bled from 200 knots to 140 knots before we regained control. We were 90 miles from the nearest suitable airfield (8,500-foot runway), and I decided to divert. Fortunately, the weather was VMC with a ceiling of 5,000 feet. I declared an emergency, and we started our descent.

My first concern was to get near land under control as soon as possible, so I held off lowering the flaps. We told the 27 other crew members to put on their chutes. With the second-tour copilot exhausted from fighting the controls, the other copilot relieved him in the right seat. We were in good shape, but we became exhausted from fighting the controls.

While on the descent, we expected to make a boost-out landing (CG was 25 percent). At 10,000 feet, the elevator controls got worse as the binding resumed. We pushed in the boost handle, freeing the controls. Uncertain if it was a hydraulic malfunction or a FOD problem, we talked about making a no-flap landing in an overweight aircraft.

I was now in a situation not covered by NATOPS, facing six problems. The elevator controls could bind at any moment. We had very little time to trouble-shoot. We were overweight for landing (113,000 pounds). We couldn't determine if approach flaps were available until we had the field in sight. The runway was relatively short and unfamiliar, and our approach speed would be 25 knots faster than normal.

The controller offered a 2.5- or 3-degree glideslope for the runway. I chose the 2.5-degree glideslope in accordance with NATOPS no-flap approach procedures. At 2,000 feet, we were less than eight miles from the field in a clean configuration. I made a right turn to set up a longer straight-in approach and selected maneuver flaps (since all boost handles were now in). At 12 miles with the aircraft established on PAR final, we lowered the gear.

The aircraft responded well until 400 feet AGL when the controls again began to bind, and the nose started to pitch up. I regained control immediately by forcing the nose back down toward the runway. The elevator was still binding, and now we were in a nose-down position. I established a flare by exerting extreme back pressure. We touched down at 135 knots and stopped with more than 2,500 feet remaining.

The total time from the first indication of a malfunctioning elevator to a safe touchdown was less than 25 minutes. We were fortunate that we were close to a suitable airfield with good weather. Flying with three pilots on board allowed us time to relieve each other.

Postflight trouble-shooting detected a partial failure of the hydraulic manual shut-off valve in the elevator boost package. This malfunction caused the elevator channel of the aircraft's flight controls to gustlock. ◄

Ltjg. Briggs is an EP-3E pilot with VQ-2, Rota, Spain.

Heads Down in the Rendezvous Circle

By LCdr. William A. Pohtilla

OUR Cat II Intruder crew was part of war-at-sea exercise. Flight lead briefed a rendezvous over the CV at 14,000 feet. The cat shot was normal with one exception.

At the end of the stroke we heard a sound in our headsets that neither of us had heard before. It was a loud, annoying and high-pitched. We couldn't get rid of it, even though we turned down every volume knob and instrument we thought could possibly produce a sound like that. We kept trying to isolate the annoyance as we proceeded outbound, while arcing and returning to the rendezvous.

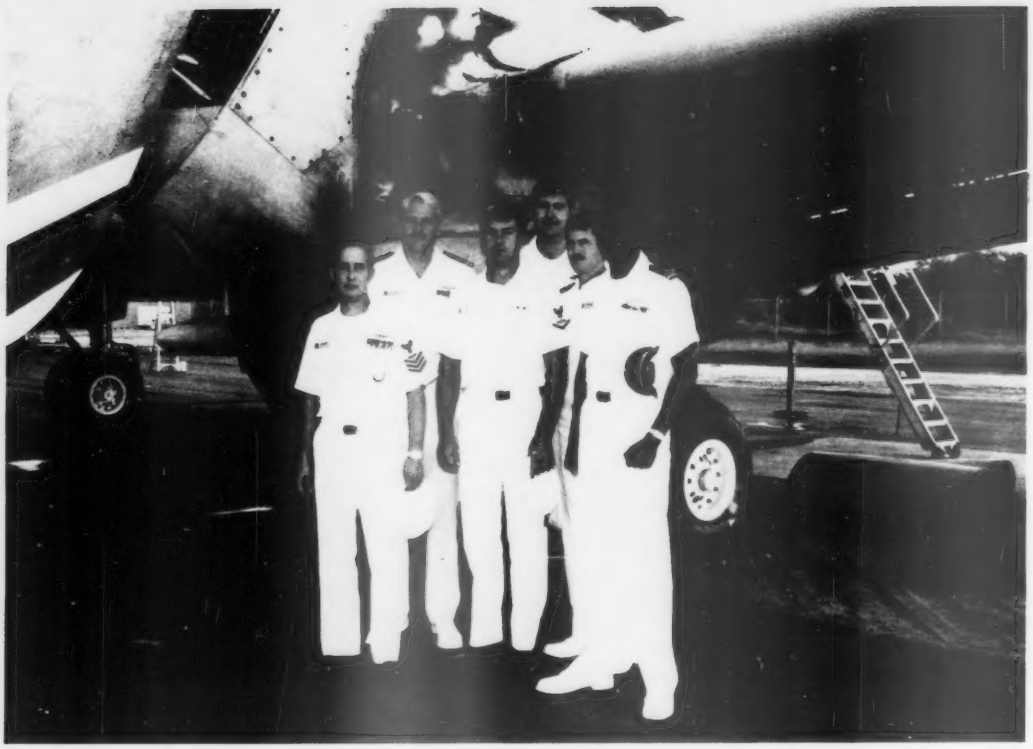
As we approached the rendezvous circle, still trouble-shooting the problem, we looked out to the left and saw two aircraft heading directly toward us. They narrowly missed our aircraft.

This near disaster jerked us back to reality, and the sound we still heard was less bothersome.

Approaching the rendezvous circle is no place to be heads down inside the cockpit trouble-shooting a problem. All eyes should be pointed outside the cockpit to spot other aircraft trying to occupy the same piece of sky.

As for the sound, we learned it was caused by an internal malfunction of our radar altimeter. The only way to silence the noise was to turn it off.

LCdr. Pohtilla is a BN with VA-145 and is the squadron's Safety Officer.



From left to right:
AD1 Rod Oldenburg,
Lt. Randall Pierce,
AW3 Brian Lloyd,
AD1 Kevin Kish,
Lt. Rick Merriman,
Ltjg. David Marshall

Lt. Randall Pierce
Lt. Rick Merriman
Ltjg. David Marshall
AD1 Rod Oldenburg
AD1 Kevin Kish
AW3 Brian Lloyd
VP-4

Dragon 01, a P-3C Orion, launched on a pilot-training flight from NAS Barbers Point. After two hours of instruction in the warning area, the aircraft began its approach back to the field with Ltjg. Marshall at the controls, AD1 Kish in the flight engineer seat, and Lt. Pierce, the instructor pilot (IP), in the right seat. After the first touch-and-go from an instrument approach, the P-3 joined the VFR bounce pattern.

At approximately 110 KIAS, 5 knots before rotation speed, AW3 Lloyd (aft observer) called out, "Fire, No. 2 engine!" The crew felt the aircraft vibrate, followed by an explosion. The cockpit warning light came on and the horn sounded. The No. 2 turbine had failed, and shrapnel had exploded out the turbine casing. It ruptured a fuel line and started an uncontrollable fire on the No. 2 nacelle and port wing.

Lt. Pierce took control and aborted the takeoff. As the aircraft decelerated, Lt. Pierce directed AD1 Kish to pull the No. 2 emergency shutdown handle and push the HRD button (the fire-extinguishing agent).

The engine shut down but the fire could not be put out with the primary and secondary HRD. The engine-fire-on-the-ground checklist was completed, and with the fire still burning, the crew shut down the remaining engines before evacuating the aircraft through the overwing hatch. The crash crew extinguished the fire as the last crewman slid down the flap.

BRAVO ZULU

LCdr. Mike Maston
Ltjg. John Bell
VA-155

During a night SRTC low level in the Cascade Mountains, LCdr. Maston (pilot) and Ltjg. Bell (B/N) saw their left fuel-filter light illuminate. They began climbing and turned north toward the nearest divert field. Following NATOPS, they established a safe altitude and set the lowest possible fuel flow to maintain level flight.

With a dual-engine flameout a strong possibility, the crew prepared for ejection, declared an emergency and headed for McChord AFB. Seattle Center controller Donald E. Keeling offered assistance as he vectored the A-6E around populated areas. During their precautionary straight-in, LCdr. Maston and Ltjg. Bell saw that field lighting had been adjusted for their expected approach and crash crews were standing by.

While the Navy crew was on final approach, Seattle ARTCC told them that a northern approach had been coordinated because prevailing winds were light and southerly. The arresting gear was rigged for the new runway and the crash crew alerted to the runway change. LCdr. Maston made an uneventful straight-in landing.

Postflight inspection revealed that both primary and bypass fuel filters were clogged with self-sealing gel from the disintegrating aft fuel cell. Dual-engine flameout was only moments away.

This is an old A-6 problem that is starting to reappear. During the last 10 years, there have been 38 incidents involving fuel cell deterioration with self-sealing gel clogging the fuel filters. Although not mentioned in NATOPS, single or double fuel filter lights could indicate a much more serious problem such as impending double-engine flameout. This crew did an excellent job of getting their jet on deck quickly. — LCdr. A.M. Keith, A-6 analyst, Naval Safety Center.

Left: Ltjg. John Bell
Right: LCdr. Mike Maston

Left: Lt.. Mark R. Mata
Right: Ens. John C. Gawne

Lt. Mark R. Mata
Ens. John C. Gawne
VT-23

Lt. Mata (IP) and Ens. Gawne (SNA) were on the third leg of their cross-country from NAS Kingsville to Long Beach International Airport. At FL 250, over the Palm Springs TACAN, they made a routine fuel check. The T-2's main fuel cell indicated nearly full at 2,200 pounds.

The crew accepted a vector and descent to 15,000 feet and settled in for the last portion of the flight. As they leveled off at 15,000 feet, they saw the fuel gauge had decreased from 2,200 pounds to 600 pounds in less than five minutes. As the two aviators watched, the gauge continued to decrease toward zero. Declaring an emergency, they asked for a vector to the nearest airfield, March AFB, 12 miles away. Lt. Mata reduced power and began an idle descent while Ens. Gawne monitored the fuel and engine gauges.

At 6,000 feet, the fuel gauge read zero, and the crew prepared for flameout. Three miles from the field, passing through 3,000 feet, the left engine flamed out. Lt. Mata and Ens. Gawne anticipated ejecting over a lake near the field, but the right engine kept turning. Two miles from the field, during the steep approach into March, they lowered their aircraft's landing gear. At 150 knots, and at 50 feet above the runway, the right engine flamed out, and Lt. Mata, flying from the front cockpit, flared the aircraft, touching down 2,000 feet past the approach end.

Postflight investigation revealed that the left engine's main fuel line had cracked at the manifold due to vibrations caused by a bent generator shaft.

The CO commented, "Dead-sticking a jet aircraft is a rare feat. [This crew] improved a flamed-out-idle profile to a successful engine-out landing at a field neither aviator had seen before."

Lt. Timothy G. Canoll
VA-37

Climbing through 3,000 feet after taking off from NAS Cecil Field, Lt. Canoll saw his A-7E's master caution and engine oil caution lights come on. As he scanned his engine instruments, he saw his oil pressure drop below 15 psi with one-half oil quantity.

Lt. Canoll declared an emergency, began a turn back to the field, extended the emergency power package, and set 83 percent rpm on the throttle. His flight leader reported dense smoked coming from the aft section of Lt. Canoll's aircraft. Lt. Canoll established his Corsair on a left downwind entry for an abeam precautionary approach to an uneventful arrested landing.

Postflight inspection revealed an internal bearing failure that resulted in the complete loss of engine oil. ◄

Launch, Launch, Launch . . .

By LCdr. Rod Kagy

Much to everyone's surprise, the target and the launcher dropped into the ocean. The wide-eyed launchmaster was even more surprised – the manual-launch device was ripped from his hands . . .

IMAGINE an SH-3G carrying a 2,551-pound MK-27 subsurface target and launcher externally. Launch of the target is done by a civilian launchmaster in the helo. He pulls a handle that releases the target from a suspended launcher on the copilot's third call of "launch."

Consider a CH-53E pilot qualified in model in the same squadron who needed flight time to meet his annual flight-hour minimums, but no CH-53 was available. Provide him with sufficient training to be a competent SH-3G copilot and send him on an ASW range support mission. After observing several launches, he was allowed to fly a launch.

He set the aircraft up for the launch. After concurrence from the HAC (helicopter aircraft commander), he ordered, "Launch, launch, launch," as he had observed every time before. But this time the copilot depressed the cyclic weapon release button on the third launch call, just as the launchmaster pulled his handle. Much to everyone's surprise, the target and launcher dropped into the ocean. The wide-eyed launchmaster was even more surprised – the manual-launch device was ripped from his hands.

Although the copilot in this incident had observed several launches and was well-briefed on the parameters, he did not know that the launchmaster released the target. He assumed that the pilot was using the weapon release button and was depressing it on his third launch call. This is a prime example of what can happen if the entire crew does not fully understand all aspects of their mission. As it was, the HAC concentrated on flying the helo and assumed that the copilot met all of the launch parameters. He never considered the possibility that the copilot would pickle the load.

This situation could have been prevented if all crew members had been thoroughly briefed on the launching mechanism, launch sequence and the launchmaster's role in the aircraft. Since the squadron had been doing this mission for years, the crew assumed that the CH-53 pilot knew how the launch system worked. This was not a sound assumption.

LCdr. Kagy is Operations Officer of HC-1 at NAS North Island, Calif.

Rebel Without A Cause

By Cdr. John Schork

Unfortunately, on the second roll, you lose it and stall the jet. You can't recover, and you both ride it in without trying to eject – that would really have been chickening out.

ANY late-night movie fan remembers the scene in "Rebel Without A Cause" in which the two protagonists play "chicken." Aviators have played a variation of that game since the beginning of powered flight. This variation is based on the macho image we all have to some extent. Although the phrase "It's better to die than look bad" is attributed to an anonymous F-8 driver, it probably originated on the *Langley*, the Navy's first flattop, during its first CQ det.

You're on one of your favorite low-levels. It's a beautiful Sunday afternoon. You and your wingman are returning from a great weekend cross-country. It's only 150 nm to home, you've got plenty of gas, and the weather is great. Time to explore the envelope.

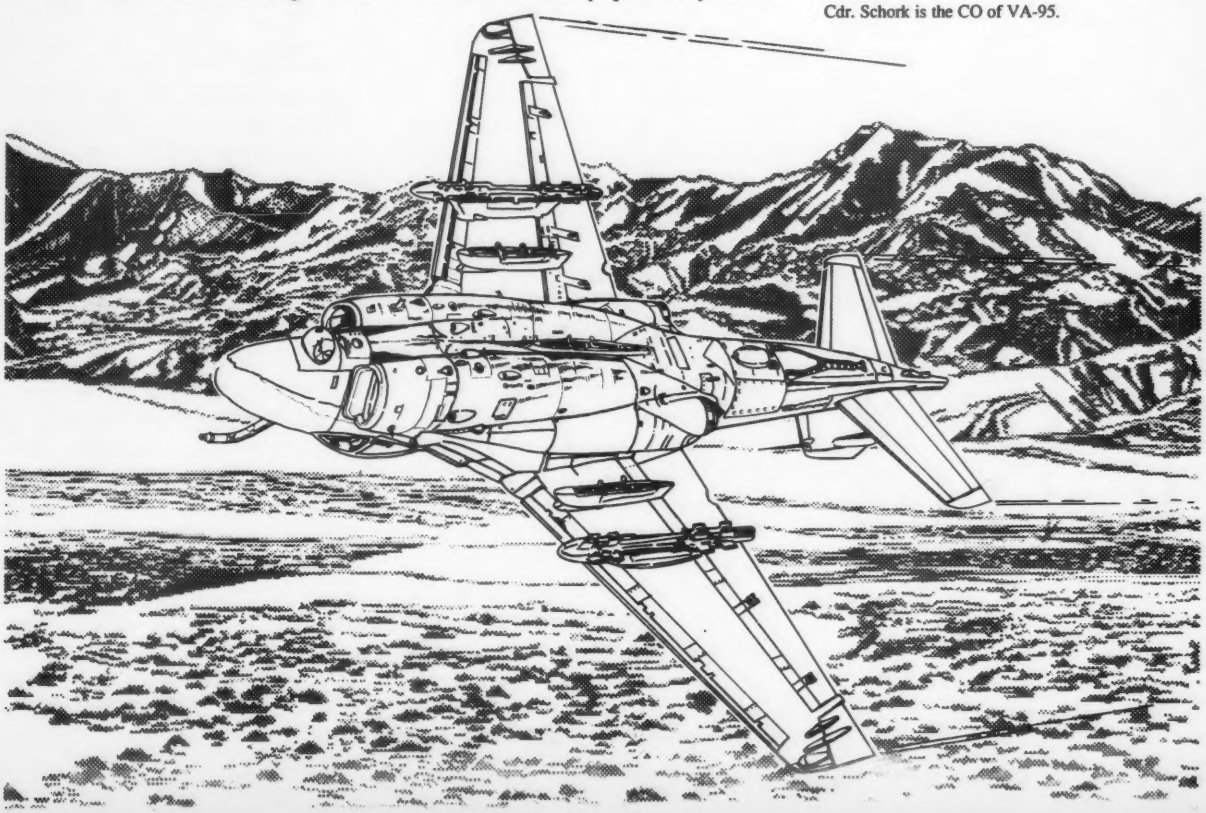
Your first barrel roll, starting from 1,000 feet, catches your BN by surprise. But, hey, he's a sharp guy, parties hard, drives a neat car, good tickets. You've crewed together for six months. You don't know it, but he doesn't want any part of your impromptu air show. Of course, he won't say anything; that would be chickening out and might damage his image.

Unfortunately, on the second roll, you lose it and stall the jet. You can't recover, and you both ride it in without trying to eject – that would *really* have been chickening out.

Absurd story? Of course, but it is also true. How many times has one crewman sat quietly while another crew member violated NATOPS or SOP? Aviators risk being ostracized by their peers if they try to squelch a guy who stretches the rules. Unfortunately, it would be small consolation to your loved ones at a memorial service to say, "He was a player."

If you don't like what you see, it is your responsibility to say something to stop it. ◄

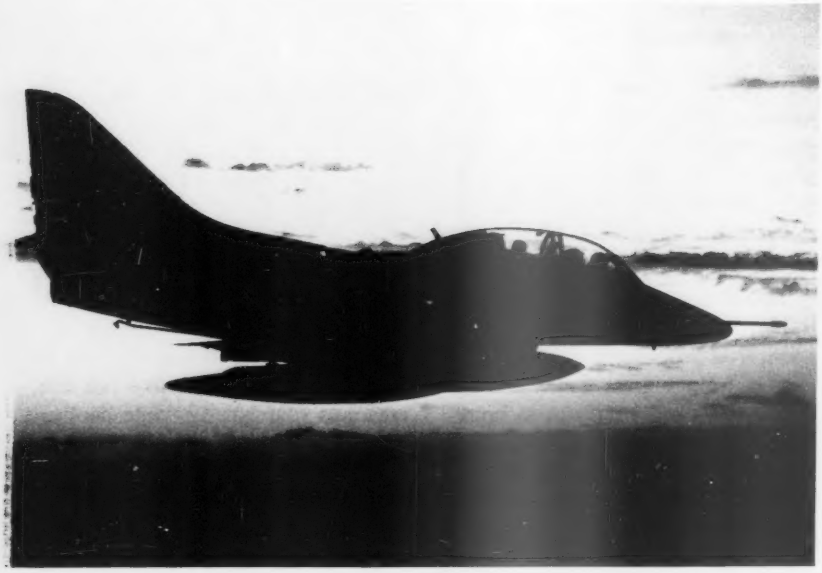
Cdr. Schork is the CO of VA-95.



The Big Hammer Has a Bad Idea

By LCdr. Wally Mann

. . . I asked the instructor why we weren't going around. In an unsettled tone, he replied, "The throttle is stuck at 85 percent."



AS a nugget headed for the A-7 FRS, I had to complete an instrument syllabus at NAS South. It was the horrors of Training Command revisited: two weeks of fun-packed, back-seat under-the-bag hops.

The graduation hop in a TA-4J was briefed as a "plain vanilla" instrument flight to NAS Homeplate with some instructor-induced kinks thrown in. We had an easy flight and were nearing NAS Homeplate. I was concerned about what the instructor had in mind, hoping for something simple and dreading extended partial panel.

It was time for the descent. When I tried to pull the throttle back, it wouldn't move. I thought, "Oh no! Simulated stuck throttle. Wait a minute. This isn't a NATOPS check." After a brief ICS exchange, we agreed that our throttle command ranged from 85 percent RPM to military power.

I first thought of the probable engine-off approach profile we would have to use. Just what I always wanted – a ride in a Skyhawk glider. However, the instructor had a novel approach to the problem.

Instead of getting just one shot at the arresting gear, he opted for a power-on approach that would let us go around if we boltered. His plan wasn't exactly what NATOPS specified for our situation. Why didn't I express my opinion to my instructor? I didn't think it would be well received.

At 160 knots, the A-4 was "hot" on final approach. On touchdown the nose gear was the only wheel we could keep on the deck. Without much surprise, I watched the arresting gear go by without a reassuring tug. We continued to "tiptoe" down the runway at 150 knots. My concern peaked when I saw the 4-board whiz by.

Unable to stand it any longer, I asked the instructor why we weren't going around. In an unsettled tone, he replied, "The throttle is stuck at 85 percent!"

A nanosecond later I had both hands filled with the ejection seat handle. The 85 percent thrust would have just barely supported flight in ground effect. After 11,000 feet of landing roll, the Skyhawk snagged the long-field arresting wire at 140 knots.

The throttle jam was caused by a 1/4-inch-diameter inspection hole in the sheet-metal panel covering the throttle quadrant. The panel must have been pushed in during maintenance, allowing a throttle linkage bolt to engage the inspection hole. I learned that you should treat a restricted throttle as a stuck throttle.

I should have voiced my concern about the instructor's plan of attack. We didn't discuss contingencies or ways to divide responsibilities. Once committed to landing, I could have shut down the fuel master since he had his hand's full. A one-way flow of communication between instructor and student is contrary to good common sense, particularly during an emergency.

LCdr. Mann, assigned to CVW-15 as CAG LSO, has 1,300 A-7E hours and 800 instructor hours.

The Rest of the Story

By LCdr. Pat LeBlanc

BOY! That was a stupid thing to do. I accidentally shut down my left engine while I was driving an F-4S around the pattern at the boat – at the abeam position at 600 feet, no less.

The weather was VFR and the South China Sea was calm. I was fairly new, just learning the ropes around a carrier. My RIO was the XO, and he was something else. I had never flown with such an aggressive guy.

The flight went well, except for a few things on the non-standard side. For instance, after I joined on our flight lead following tanking, I heard the XO call, "We've got the lead" on the radio. Evidently, he didn't think things were happening fast enough. Then I heard, "Cross under."

"Hey, dude," I thought, "that's pilot stuff." Of course, I didn't say anything; I thought he'd rip me apart.

Although I noted how much the XO liked to control the flight, I thought, "What the heck, he *is* the XO."

We entered the break and had a Central Air Data Computer (CADC) failure. No big deal. That just meant that the altimeter jumps around more than normal. After I turned downwind, it was obvious the altimeter was useless, and I told the XO.

"No problem," I said, "I'm using the radar altimeter." But that was not good enough. My backseater told me to turn off the CADC. That's all I needed as I slowed down to "on speed" approaching the bow. I ignored him. I'd get the "Thunder Hog" aboard in less than 60 seconds. Why should I start messing with switches at the abeam position when I'm ready to make my turn? I've got an accurate radar altimeter, anyway.

The XO called, "I said, turn off the CADC now!" as I went into a 30-degree angle-of-bank turn.

I didn't need this hassle, and just to get him off my back, I quickly reached down and flipped what I thought was the CADC switch. I knew that the switch was near the engine masters, and I decided to double-check a few seconds later, just in time to hear the left engine winding down. It could have been an eye-opener, but I caught my mistake before the rpms decayed very much.

Part of good crew work is giving inputs in a timely fashion. Forcing a scan breakdown in the Case I pattern is not good input. Also, in most cases, tyranny does little to enhance crew coordination. ◄

LCdr. LeBlanc is the ASO for VF-24.

Seven and the Sad Tail, or "Don't Fence Me In!"

By LCdr. James O. Cole, Jr.

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When a fixed-wing aircraft bumps into something, it gets a little scraped paint and rumpled skin, and its pilots get a lot of embarrassment. But a turning helo is like a self-propelled food processor that minces, slices and dices anything in its path. I made julienne fries out of the fence; my tail rotor didn't fare too well, either.

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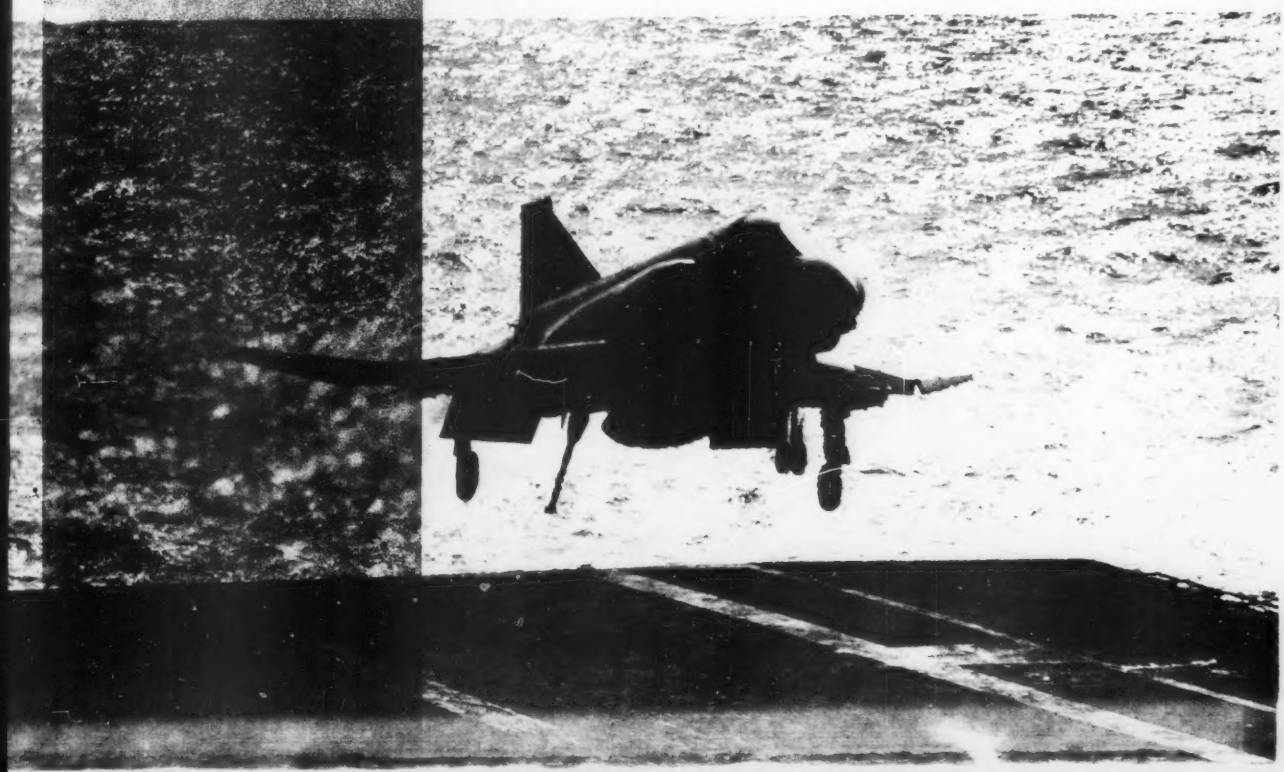

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ing my left and my six, and I began my turn. Whammo! Vibrations and yaw. During that split second, my professional life flashed in front of me because it suddenly became crystal clear that my tail had hit something.

Instead of putting my pencil flare to my head, I shut down the helo. Then I made the most sickening postflight inspection of my life. It was incredible that no one was injured by flying debris.

After flying H-2s for nine years, how could I have misjudged my clearance? From my vantage point, it looked wide open, an illusion caused by the perimeter curving away to the left in front of my aircraft. However, it was closer – about 3 inches too close. There's a physiological illusion aptly called "the chain link fence effect," where people tend to focus on large, solid objects (such as mountains) in the background and not see smaller objects in the foreground. In my case, the background was a large earthen embankment that caused the fence to get "lost."

I did not use my crewman as a taxi director. I'll never make *that* mistake again.

I assumed my crew was watching, but my crewman was looking down, not out, fumbling with the pins. My copilot was looking through his checklist, looking down, not out. Did I call my turn to the right? No. I thought it was obvious.

I found out that the customs building was originally an admin building never meant for aircraft operations. That accounted for how close it was to fences and light posts, and for the fact there were no taxi lines on the ramp, no designated parking spots, and no line personnel. I was the seventh aircraft in 1988 to hit the fence. With better crew work, I would have avoided this dubious honor. ◄

LCdr. Cole is a det OINC for HSL-34. His previous tours include VT-6, HSL-30 and HSL-32.

Merged Plot At the Two-Board

By Lt. Bobby Rountree

AFTER four months as a SERGRAD, I felt I knew my job. This flight – just another FAM flight – had gone as briefed. With all the high-altitude work in the MOA complete, we returned to base to practice emergency approaches and landings. We would make a simulated stuck-throttle approach, and then enter the bounce pattern.

We hit our 10-mile straight-in point, set the throttle, and proceeded inbound at 500 feet AGL and 200 knots. We dirtied up and called the tower.

"Cleared for a roll-and-go," the tower replied. "You're No. 2 behind a T-2 passing the 90."

TA-4s have a higher approach speed than T-2s, but we didn't realize we were nearly twice as fast on this approach. I asked my student if he had our interval since I could not see the T-2 from the rear seat. The student replied, "Tally-ho," and I told him to maintain his interval. I felt confident that he could safely monitor our closure.

To execute a practice stuck-throttle approach, you retard the throttle at 200 feet AGL, simulating engine shutdown. With the throttle at idle, pilots make a roll-and-go instead of a touch-and-go because the TA-4J's engine takes a long time to spool up. We were cleared to land from the initial.

My first clue that something wasn't right came at 150 feet, after we set the throttle at idle. The tower called, "Skyhawk cleared touch-and-go only."

I thought, "We can't do a touch-and-go with the throttle at idle." I didn't see any reaction from my student, and I pushed the throttle to MRT.

By now, the fledgling aviator up front had started his flare, and I craned my neck to take a peek at the landing area. Much to my surprise, I saw our interval on the left side of the runway, aero-braking about 2,000 feet from the approach end. Our engine was winding up, but not fast enough. As we touched down on centerline, I took control.

I applied right rudder as I tried to "will" the Skyhawk into the air. The tower frantically called for the T-2 to go around. But, with our closure, the Buckeye never had time. All I could see was his rudder, and I figured my time had come. Fortunately, our Pratt & Whitney P-6 finally put out enough power, and we got airborne just prior to passing the T-2.

Afterward, I seriously re-evaluated my cockpit habits, especially when flying with students. My poor lookout doctrine, and not thinking about closure almost turned "just another FAM hop" into a real-life mishap. ◄

Lt. Rountree was with VT-24 at the time of this incident. He now flies F-14s with VF-111.

LETTERS

Re: The Name of the Game Is Survival (April '89)

Buenos Aires, Argentina — In Lt. Kenneth D. Coburn's article, Approach takes a look at the survival equipment we use. In the RSSK-7 kit, there is fire tinder and a metal match, among other items.

In a camping store I found a very interesting piece of gear. It's a piece of magnesium alloy with a metal match attached to one of the edges.

The way to use it is very simple. You scratch the edge with a survival knife to get a small amount of magnesium powder. Scratching the sparking edge ignites the powder, and you get a high temperature, burning magnesium flame to start a fire.

James R. Whamond
Teniente de Fragata
Escuela de Aviacion
Naval Base Adronaval Punta Indio

Re: Good News, Bad News (July '89)

FPO San Francisco — As a former Aviation Maintenance Officer and now the squadron Safety Officer, I have used Approach as a valuable tool in educating both aircrew and ground personnel. We submit articles and poster suggestions and strive to improve the quality and quantity to your heretofore outstanding publication.

I take exception to the editor's comment on Lt. Rick Morgan's article. Such editorial opinions expressed by those in positions of authority have done more to stifle not only the enthusiasm of junior officers to contribute articles but, more importantly, the endorsements of their Commanding Officer.

While I can only speculate on the desired effect of the editor's comment, the message received by this reader was that of a staff who questioned the author's accuracy, the MO's professional competence and the CO's managerial skills — rather heavy accusations to draw from a one-page, unsubstantiated report.

If this practice of placing commands on report is representative, I suspect that your contributions will be severely curtailed. No one ever said contributions had to be true, just something we could learn from. Don't destroy our exceptional publication through public execution in a professional forum. Let the FUNCWINGS and TYCOMS pass judgment on the capabilities of commands or departments and use their expertise to determine whether "malodorous maintenance practices" exist.

LCdr. M.J. Maston
VA-155

"Good News Bad News" was a fictional article. The editor's comments were not intended to point a finger at any individual or command, but were a general observation that if the shoe fits . . . — Ed.

Re: Approach Cover (July '89)

Dallas, Texas — For several years I have been reading Approach in the local library and have been getting quite an education in Naval Aviation. Because of your excellent publication, I have developed a great admiration and appreciation for our aircrews and flight deck personnel. Even without an enemy, a carrier is a dangerous place.

I was particularly impressed by your July '89 cover (the flag reflected in the pilot's visor) by Approach Illustrator John Williams. You are doing our country a great service by helping keep our aviators alive while they protect our freedom. Just in case nobody said it before — thanks!

Paul C. Cornell

Re: Patches (Sept. '89)

Monterey Calif. — The new Aviation Safety Officer patch is now available to all former graduates. Send all requests along with a self-addressed envelope to:

Aviation Safety Programs (Code 034)
Naval Postgraduate School
Monterey, CA 93943-5100

The cost is $4.00/each payable by check only to Aviation Safety Programs. A helicopter version will be available soon.

Capt. R.E. Joslin, USMC
Navy Postgraduate School

Approach welcomes letters from its readers. All letters should be signed though names will be withheld on request. Address: Approach Editor, Naval Safety Center, NAS Norfolk, VA 23511-5796. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

Another Hazardous-Cargo Tale

NAS Jacksonville, Fla. — While loading baggage in the forward compartment of a C-9B, we smelled gasoline coming from the baggage.

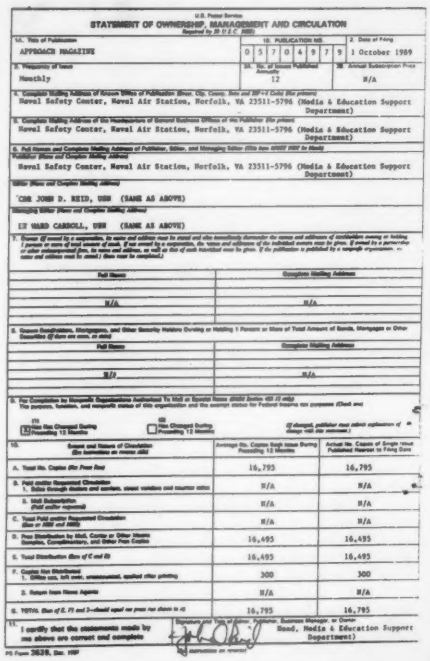
The crew chief and loadmaster found a gym bag wet with gasoline. They opened it and found automobile carburetors full of fuel and leaking.

The crew chief removed it and placed it by the forward stairs. He asked the owner to come forward, advising him that the hazardous cargo would have to be left behind. He told the owner to leave the bag with someone in the terminal.

The owner left the aircraft. The crew chief looked below and saw him dumping fuel out of the carburetors at the bottom of the forward stairs. The crew chief verbally reprimanded him. He told him that he not only wasn't following orders but was creating a serious safety hazard underneath the aircraft.

Hazardous cargo can include not only military cargo but personal items as well. Many people are not aware that many chemicals and household-type liquids and cleaners are classified as hazardous cargo. The fuel from the carburetors could have caused a serious fire or explosion, perhaps resulting in the loss of the passengers, crew and aircraft.

AMS1 John Schneider
Crew Chief, C-9B
VR-5



U.S. Postal Service
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Required by 39 U.S.C. 3685)

1A. Title of Publication	1B. PUBLICATION NO.	2. Date of Filing
APPROACH MAGAZINE	0 5 7 0 4 9 7 9	1 October 1989
3. Frequency of Issue	3A. No. of Issues Published Annually	3B. Annual Subscription Price
Monthly	12	N/A

4. Complete Mailing Address of Known Office of Publication (Street, City, County, State and ZIP+4 Code) (Not printer)
Naval Safety Center, Naval Air Station, Norfolk, VA 23511-5796 (Media & Education Support Department)

5. Complete Mailing Address of the Headquarters or General Business Offices of the Publisher (Not printer)
Naval Safety Center, Naval Air Station, Norfolk, VA 23511-5796 (Media & Education Support Department)

6. Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor (Do not leave blank)
Publisher (Name and Complete Mailing Address)
Naval Safety Center, Naval Air Station, Norfolk, VA 23511-5796 (Media & Education Support Department)
Editor (Name and Complete Mailing Address)
CDR JOHN D. REID, USN (SAME AS ABOVE)
Managing Editor (Name and Complete Mailing Address)
LT WARD CARROLL, USN (SAME AS ABOVE)

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8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities (If there are none, so state)

Full Name	Complete Mailing Address
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(1) [X] Has Not Changed During Preceding 12 Months
(2) [ ] Has Changed During Preceding 12 Months (If changed, publisher must submit explanation of change with this statement.)

10. Extent and Nature of Circulation (See instructions on reverse side)	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies (Net Press Run)	16,795	16,795
B. Paid and/or Requested Circulation 1. Sales through dealers and carriers, street vendors and counter sales	N/A	N/A
2. Mail Subscription (Paid and/or requested)	N/A	N/A
C. Total Paid and/or Requested Circulation (Sum of 10B1 and 10B2)	N/A	N/A
D. Free Distribution by Mail, Carrier or Other Means Samples, Complimentary, and Other Free Copies	16,495	16,495
E. Total Distribution (Sum of C and D)	16,495	16,495
F. Copies not Distributed 1. Office use, left over, unaccounted, spoiled after printing	300	300
2. Return from News Agents	N/A	N/A
G. TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	16,795	16,795

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Signature, Title of Editor, Publisher, Business Manager, or Owner
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and a SAFE NEW YEAR

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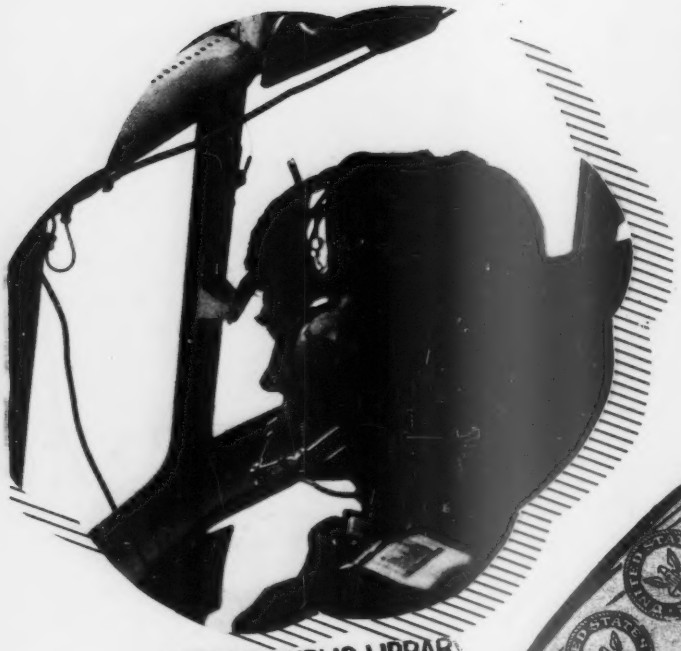

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